The Passing Lane

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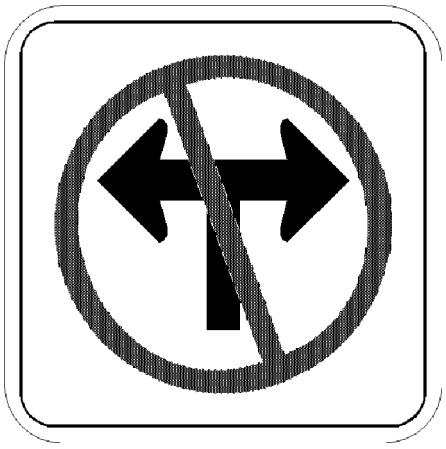

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The Passing Lane is a publication of the Washington State County Road Administration Board. Unauthorized distribution is strictly forbidden unless accompanied by boisterous praise for the below mentioned staff. Please call **(206)753-5989** if you would like more information regarding this newsletter or would like a free lifetime subscription. Our electronic bulletin board may be reached at **(206)664-0946**, N81.

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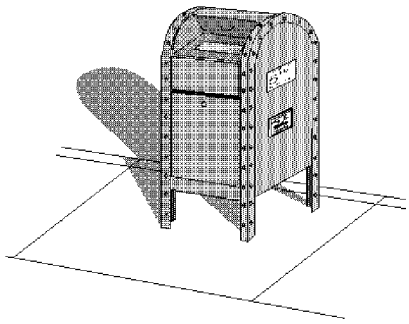
CRAB CEAL CRIS

Passing Lane Subscriptions

The Passing Lane (this that you're holding) is a periodic newsletter of the County Road Administration Board Information Services Staff. It combines the efforts and enthusiasm we have invested in our two major support enterprises, the County Road Information System (CRIS), and the Civil Engineering Automation Library (CEAL). As such, its primary audience is the technical staff at Washington State counties. However, our mailing list extends far beyond this admittedly dynamic and progressive group. We encourage the circulation of our ideas and experiences beyond this group and are happy to keep everybody on our mailing list. The time has come, however, to update this list and ensure that all those who are receiving *The Passing Lane* find it relevant to their work and/or happiness. Therefore, this is re-subscription time, and we've come up with the following, needlessly complicated re-subscription policy.

If you work for a Washington county, your subscription is automatically renewed. That part is easy. You'll have to contact us if you no longer want to get *The Passing Lane*. If you do not work for a Washington county, we request that you mail or fax us (360) 586-0386, to the attention of *The Passing Lane*, a single page which contains the words **"send me The Passing Lane"** and your full name and r address. Regardless of your county affiliation, you do not receive the Passing Lane at this tin and you want to, this is a good time to initiate your free subscription. Just send in the enrollment page described above.



If you don't work for a county and you wish to discontinue getting *The Passing Lane*, then ignore this message and be at peace. By not responding, you will be automatically dropped as of this issue.

Thanks to all of our readers for making *The Passing Lane* the most important part of your working life.

CRIS Permits Workshop Scheduled

The County Road Information System (CRIS) has a solid foundation of county input. Your next opportunity to be a part of this synergetic relationship is **May 2-3**. That is the date set for a workshop exploring the idea of tracking permits with CRIS.

Can all public works permits be tracked with a simple CRIS module? Do you want to setup a CRIS workstation at the counter and print permits? If this is a practical addition to CRIS, the potential for automating the permitting process and relating the data to existing CRIS modules could be very powerful.

Workshop participants will get a chance to put their signature on a CRIS module and learn something about database development. So if you have interest and/or knowledge about permit tracking and would enjoy being a part of developing this system, call 360-664-CRIS and reserve your seat today.

On Developing Software by Dr. Charles L. Miller, P.E.

CLM/Systems, the producers of the CEAL program, employ an approach to software development which helps to control the effectiveness of user documentation. The following is a description of their approach and some of its advantages.

Standard Approach

The standard approach to developing software may be expected to correspond to the following: First, a survey of prospective users is conducted. A description of the software's potential interest in the market is developed by the marketing department. Second, the product description is given to the programmers. The programmers interpret the report and program what they can and what they think the user really needs. During this second phase, the programmers commonly do not document their work. A writer is brought in later in the process to document the program. The writer is responsible for describing what the code does. The end result of this process is software which bears little resemblance to what the user originally specified. The documentation is considered to be incomplete or in error if the documentation and the code do not match. The marketing hype for such software is based on the original marketing survey so it sounds good to the user. The process generates large sales to the mass market, but eventually disappoints the users. The approach is suitable for "one shot" product development.

CLM Approach

After 20 years experience with the above process, CLM embarked on an effort to improve the process. In CLM's approach, documentation of the enduser manual is the starting point. Based on many inputs, one person drafts the documentation. The documentation is enduser and applications oriented. The documentation serves as a "specification" to be followed by the programmer. The programmer may negotiate changes in the documentation in order to speed up implementation or to make the program more powerful. But the deviations must be documented. When programming and testing are complete, the documentation is complete. The code must be made to match the documentation. In this approach, if the code and documentation do not correspond, then the code must be brought into compliance with the documentation (in its role as the program specification), and not the other way around. Simply stated, the code may be wrong, but the documentation never is.

Innovation

The CLM approach is driven by innovation and feedback. Innovations, such as COGO, DTM, SPECs, DESIGN Model, MAP Model, etc. originate at CLM. It typically takes 3 to 8 years for an innovation to be adopted by the user community, and copied by the clone makers. Innovations, new commands and features introduced by CLM result in hundreds thousands of suggestions from endusers for enhancements and improvement. The process is continuous and accelerating. Each CEAL release is larger. While CEAL contains code developed over the past ten years, 50% of the code is new within the past two years, and 80% of the code is new within the past four years. The periodic "rewrite" of all program code required by the standard approach is not necessary. One key to success in this process is employing a chief designer. This single "chef" of the CLM approach is essential. It is the key to enforcing standards and achieving consistency. Individual programmers, often brilliant, tend to be very independent. They are usually "loners". The challenge is to synthesize the work of many. This is the role of the chief designer.

The RED Book

The CLM approach described here is managed via "The Red Book". The Red Book is a complete set of CEAL manuals containing enduser documentation of the current production release of CEAL, any planned enhancements to existing commands and features, and new commands and features documented for future implementation. The Red Book is backed up by files of suggested enhancements, sorted by subject and by source. The Red Book is a very effective control on the status and development of CEAL. It works extremely well until a programmer makes a change in the code but does not reflect the change in the Red Book. This sets off a race to see who is going to find the discrepancies first - CLM or an enduser. Maintaining the Red Book is an important activity at CLM, and keeps everyone at the company informed of CEAL's progress.

Dr. Miller is the founder and president of CLM/ Systems of Tampa, FL.

Advanced Revelation 3.11

We are planning to upgrade CRIS to the latest version of Advanced Revelation (AREV 3.11). The result? CRIS will be FASTER and appear and operate much more like a STANDARD database package. If you like to run CRIS in Microsoft Windows, it will work much better after this upgrade. The mouse will work the way you think it should.

In the past we have asked you to purchase AREV upgrades. This has been difficult to accomplish. Not only is cost an issue, but the 'hassle factor' was always high. So....we are buying the upgrade for you. In fact the order is being sent in as I type this article.

Applying this upgrade to CRIS is not a trivial task. We are still trying to determine the best method of upgrading each one of your CRIS systems. Wait for more details in the next issue of *The Passing Lane*.

ICOGO revisited

ICOGO stands for Interactive COGO. It provides a graphical interface to the CEAL dataset. Many of you would like to make better use of ICOGO in your day to day job, but are uncertain about how to adapt your current work routine. Our newer CEAL users, however, have often started out using CEAL through ICOGO, and are interested in expanding its usefulness. Here's an approach a few counties have started using to help in designing alignments. Some may find that it provides a more interactive approach to developing roadway centerlines than the plot and peek approach:

1. To get started, type ICOGO at the dot. Choose FILE/MAP and FILE/SCHEDULE to overlay your map model and schedule files. If you have many points in close proximity in your current dataset, you may find it easier to design your alignment in a blank dataset. Be sure that Points, Curves and Chains, as well as their labels, are on under GRAPH CONTROL.

2. Choose a PI to PI chain name (pline) and a curve to curve chain name (proposed line), and type in the Next Available Point (NAP) and
(NAC) you want. Use STOR
alignment PI's in sequentia
their locations on the scree
pline chain once in a while,
mand line (e.g. A001 1 to 5)
by picking points
(STORE/CHAIN), when you
push VIEW/REDRAW, you
can watch your progress.

3. When your through storin
you've defined your final pli
ready to store your alignme
quential order. Use the ST
button and the PB-PI-PA-R
Your choice of radius is not
portant at this time. You ca
and PA interactively when
curve, since these elements
PI's you've just stored.

4. Delete lines from your co
(History Delete n) so that th
lines left are the commands
Save this history sequence into a program file e.g. PROGram Save CURVES. Edit this file using a DOS text editor by using FILE/DOS SHELL to get to DOS. At the top of the file add a line to DELete ALL CURves and another line to set NAC Cn. Return to ICOGO by typing EXIT at the DOS prompt.

5. Back in ICOGO, examine the alignment for conformance with your project objectives using VIEW/PAN, VIEW/ZOOM, etc. If you want to modify a curves position, you can move its PI and recompute the curve. Unfortunately, in ICOGO, you can't move points explicitly. However, you can store the same point number at a new location (you can pick the location with the mouse). SET NORedefine so you don't accidentally overwrite the wrong point. Once you move a PI, update changes to your alignment by using FILE/PROGRAM RECALL to run the CURVES program you made in the previous step. To modify a curve radius or point references, edit CURVES.PGM as in the previous step to change the element of interest. Use VIEW/REDRAW if necessary to see the results.

6. Define your final alignment chain of curves and points and your done. Use FILE/DATA RESTORE to combine your new alignment with any existing dataset you have.

Do you have ICOGO story to tell or ideas to help elaborate on this procedure? Write or call the editor so we can print your suggestions.

PONTIS is Latin for Bridge

At least that's what I've been told. PONTIS is also the name of the software chosen by the WSDOT to act as the Bridge Management System (BMS) required of
federal funding system
ppears that if the WSDOT has
S then we've complied with
ederal mandate. So, at this
it is not necessary for each
y and city to do PONTIS, but
be necessary for each county
o collect PONTIS inspection
on so that the State can do
ary predictive analysis with
re.

are currently at least three ef-
oing to help you bridge engi-
espond to this need. Your
gineer at TransAid (John
scheduled four March classes
nd reporting PONTIS infor-
OT; TransAid, CRAB, and the
sion are working to come up
le to use form for collecting
data; and CRAB has added
S module of CRIS that ease
and reporting PONTIS back
.

PONTIS is to describe each bridge as a combination of a standard set of bridge elements ("deck", "stringers", "abutment") and the state (or condition) of each of these elements. So, what we've added to CRIS's PC-SWIBS is a built-in table of the standard elements, a form for collecting inspection data, a screen for entering that data into a CRIS file, and a routine for sending this data on a diskette off to WSDOT.

We've had a few classes, which we labeled BMS, this season to teach how to collect and report SWIBS and PONTIS data to WSDOT and there is one last class scheduled for April 19th. If you want more information on this don't hesitate to call John Dorffeld at TransAid (360-705-7379) or Steve at CRAB.

Welcome to Support Specialists

We are excited to announce the arrival of two new minds to the Information Services support staff. Many of you already know Dr. John McEachron. John has accepted a permanent position at CRAB and you will find his expertise on one end of the 664-CRIS help line. John has done a lot of good work for us in the past and we are glad he is planning to stay for the foreseeable future. We would also like to welcome Melanie Palmer to our staff. Melanie has joined us from the Department of Retirement Systems and brings with her a wealth of experience supporting PC hardware and software in a network environment. Her training expertise will also be a welcome addition to our CRIS & CEAL training programs. If you haven't already, please call and ask Melanie or John a tough CRIS question.

CRIS Support .	(360)664-CRIS
CEAL Support .	(360)664-CEAL
Grants Support	(360)586-PLUM
CRAB BBS . . .	(360)664-0946
CRAB Main Line	(360)753-5989
CRAB FAX . . .	(360)586-0386

Design Systems Survey underway

Some of you in design/construction may have noticed a nosy, two page questionnaire sent out recently by the folks at CRAB. Its purpose is to collect information about present and future computing systems for engineering design at your county. Many counties make use of CRAB's universal site license for CEAL, while others have made a variety of other arrangements. Our interest in compiling information from CEAL clients is to find out how CEAL and CEAL support through CRAB is working, and to discover what else we could be doing. For those not using CEAL, want to find out how you're systems are performing and where you see your automation efforts going in the future.

If you haven't returned your questionnaire yet, please do so as soon as possible. We'll be using the results to help us adjust our support program. We are also eager to publish the survey results in an upcoming newsletter so you might better understand how your peers work.

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